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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,373	11/23/2004	Shinichi Morishita	YOSHID0018	7555
7590		06/12/2007		
Griffin & Szip Suite PH 1 2300 Ninth Street South Arlington, VA 22204-2320				
			EXAMINER	
			RIGGS II, LARRY D	
			ART UNIT	PAPER NUMBER
			1609	
			MAIL DATE	DELIVERY MODE
			06/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/500,373		MORISHITA ET AL.	
	Examiner		Art Unit	
	Larry D. Riggs II		1609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>23 November 2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

For purposes of examination, the term "alkali" has been interpreted to mean a base of a nucleotide.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract **not exceed 150 words in length** since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc. The abstract exceeds 150 words in length and should be within the range of 50 to 150 words. The abstract of the disclosure is objected to because the term "colored", in line 15, should be spelled accordingly. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "alkali" in claims 1-25 is used by the claims to mean "base of a nucleotide", while the accepted meaning is "Chemical: any various bases, the hydroxides of the alkali metals and of ammonium, that neutralize acids to form salts and turn red litmus paper blue"; The Random House Unabridged Dictionary, 2nd Edition, 1993, Random House, Inc. The term is indefinite because the specification does not clearly redefine the term.

Claims 1-5, 7, 9-11, 14-18, 20 and 22-24 recite an array with a "predetermined length" but the claims are unclear if the length is of the array or of components on the array.

The term "partial array" in claims 1-5, 7, 8, 11, 14-18, 20, 21 and 24 is a relative term which renders the claim indefinite. The term "partial array" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The specification gives examples of partial arrays comprising of n-mer, (page 10, paragraph 6), 2-mer, (page 12, paragraph 1) or lengths of up to an 18-mer, (page 25, paragraph 5), thus the term "partial array" does not seem to have a defined limit.

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Claims 1 and 3 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: The calculation or determination of the eligibility for an array design. These claims refer to an incident step, wherein something occurs, then a second step of making a record of that incident in the form of a table. However, there is no step in the method to enable one skilled in the art to determine how an incident and storage of that incident enables the judging of eligibility for an array design.

Claim 2 recites the limitation "the beginning" in line 8. There is insufficient antecedent basis for this limitation in the claim.

The term "beginning" in claim 2 is a relative term which renders the claim indefinite. The term "beginning" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. One of ordinary skill would not know if "beginning" refers to the method, the partial array, the genome array or a table.

The instant claim 4 starts to define a k mutation of a partial array with respect to an incidence table but the claim is unclear whether there are two partial arrays or is referring to one partial array when reciting from line 3-6, "...conversion of k alkali(s) of the partial array with the predetermined length exist(s) in the partial array with the predetermined length with reference to an incidence table storing an incidence in a genome array with respect to each of the partial arrays with the predetermined length;".

The instant claim 5 is unclear how the shorter second predetermined length partial array relates to k mutation to enable the judging of hamming distance between an array when the claim recites from line 5-8, "...of the partial arrays with the predetermined length including the second partial array from the beginning, whether the k mutation(s) with the predetermined length exist(s) in which k alkali(s) at a position away for the beginning of the partial array with the predetermined length buy a second predetermined length is/are converted;".

Claim 5 recites the limitation "the beginning" in line 6 and 7. There is insufficient antecedent basis for this limitation in the claim.

The term "beginning" in claim 5 is a relative term which renders the claim indefinite. The term "beginning" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. One of ordinary skill would not know if "beginning" refers to the method, the partial array, the genome array or a table.

The instant claim 7 is unclear how the maximum number "m" of partial array is "uniquely included" and "handling" when the claim recites from line 6, "calculating the maximum number m of partial array uniquely included in the partial array and handling the m as an indicator..."

The instant claim 9 is unclear how an alkali is a predetermined length when there is no reference given to any form of metrics when recited from line 5, "...identifying the

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same number of arrays including the alkali as a predetermined length with respect to each of alkalis included in a genome array;"

The instant claim 10 is unclear how an alkali is a predetermined length when there is no reference given to any form of metrics when recited from line 6, "...identifying the same number of arrays including the alkali as a predetermined length with respect to each of alkalis included in a genome array;"

The instant claim 11 is unclear how an alkali is a predetermined length when there is no reference given to any form of metrics when recited from line , "...identifying a same number of arrays including the alkali as a predetermined length with respect to each of the alkalis included in a genome array;"

Claim 15 recites the limitation "the beginning" in line 7. There is insufficient antecedent basis for this limitation in the claim.

The term "beginning" in claim 15 is a relative term which renders the claim indefinite. The term "beginning" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. One of ordinary skill would not know if "beginning" refers to the method, the partial array, the genome array or a table.

The instant claim 17, starts to define a k mutation of a partial array with respect to an incidence table but the claim is unclear whether there are two partial arrays or is referring to one partial array when reciting from line 3, "...conversion of k alkali(s) of the partial array with the predetermined length exist(s) in the partial array with the

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predetermined length with reference to an incidence table storing an incidence in a genome array with respect to each of the partial arrays with the predetermined length;”.

The instant claim 18 is unclear how the shorter second predetermined length partial array relates to k mutation to enable the judging of hamming distance between an array when the claim recites from line 6, “...of the partial arrays with the predetermined length including the second partial array from the beginning, whether the k mutation(s) with the predetermined length exist(s) in which k alkali(s) at a position away for the beginning of the partial array with the predetermined length buy a second predetermined length is/are converted;”.

Claim 18 recites the limitation “the beginning” in line 7 and 8. There is insufficient antecedent basis for this limitation in the claim.

The term “beginning” in claim 18 is a relative term which renders the claim indefinite. The term “beginning” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. One of ordinary skill would not know if “beginning” refers to the method, the partial array, the genome array or a table.

The instant claim 20 is unclear how the maximum number “m” of partial array is “uniquely included” and “handling” when the claim recites from line 6, “calculating the maximum number m of partial array uniquely included in the partial array and handling the m as an indicator...”

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The instant claim 22 is unclear how an alkali is a predetermined length when there is no reference given to any form of metrics when recited from line 6, "...identifying a same number of arrays including the alkali as a predetermined length with respect to each of alkalis included in a genome array;"

The instant claim 23 is unclear how an alkali is a predetermined length when there is no reference given to any form of metrics when recited from line 7, "...identifying a same number of arrays including the alkali as a predetermined length with respect to each of alkalis included in a genome array;"

The instant claim 24 is unclear how an alkali is a predetermined length when there is no reference given to any form of metrics when recited from line 23, "...identifying a same number of arrays including the alkali as a predetermined length with respect to each of alkalis included in a genome array;"

Conclusion

No Claim is allowed.

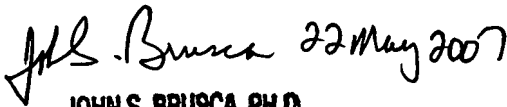
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Larry D. Riggs II whose telephone number is 571-270-3062. The examiner can normally be reached on Monday-Thursday, 7:30AM-5:00PM, ALT. Friday, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mary Mosher can be reached on 571-272-0906. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Larry D. Riggs II

 22 May 2007
JOHN S. BRUSCA, PH.D.
PRIMARY EXAMINER